Functionality of water supply systems key to sustainable national development

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Critical gaps in functionality of water supply systems lead to excessive maintenance costs and the misallocation of resources. Therefore, the need to assess the functionality of water supply systems and the effectiveness of the agencies responsible for operation and maintenance (O&M) is evident. This study aims to explain the significance of functionality of water supply systems and the strategies that government is undertaking to ensure continuous improvement in functionality and sustainability of water services to all Ugandans.

What is the significance of functionality of water supply facilities, especially to national development?

Functionality is essentially about the number of water sources that are operational at any given time. If you are in a community that is served by a rural water facility and you go to a source, what are the chances that you will find it working? Functionality is the percentage of water supply systems that are functional at a given time. If you receive a supply from a water facility and it is functional, it means that you can access the water that you need to carry out your daily activities. The government always aims to achieve functionality rates above 80% so that users can enjoy regular access to water.

Looking at the past fifteen years, functionality increased from below 70% to over 80%. MWE has ensured that the right strategies are put in place to ensure that functionality rates are high. This means that MWE has planted the seeds of functionality, invested in the right technologies, and is ensuring that the facilities are maintained properly.

In terms of investment, if we are operating at 85% functionality, it means that close to 12,000 of the sources are not working at any time. We have invested resources and we are not using them, which means there is idle capital. We must ensure that whatever we invest is utilized. The higher the functionality rate, the better for national development. If functionality is lower, then the net effect of the service we are providing is reduced. This can easily result in a multiplicity of negative effects on citizens and on national development. Such is the significance of functionality of water facilities.

What is the status of functionality of water supply facilities in Uganda?

Currently, springs are the most reliable water supply systems, operating at functionality rate of 88%. This is closely followed by boreholes at 87%. The lowest functionality is among shallow wells at 84%. Many of them are drying up. The challenges range from technical issues like corroded pipes, silted wells, and dropped pipes, to quality issues. The low rate of functionality of shallow wells lowers the national average significantly.

But it is also important to focus on the factors that influence functionality.

Availability of alternatives: If there are alternative sources within easy reach, community members will be more likely to use those sources for maintenance. They keep moving from one source to another – if one source is not functional they quickly go to the alternative one.

Quality of materials used to construct water supply systems: Materials of a poor quality may corrode and cause the water to change color and odor. Once users see a different color of water, they are affected psychologically and they end up abandoning the source.

Water quality: In some areas it has been reported that the water tastes salty. These include areas in Lango region, areas around Lake Kyoga and some areas in Rakai. You find that people abandon water sources in such areas and search for water of acceptable quality.

The dependency syndrome: In many communities in Uganda, people wait for handouts from outsiders and donors. Many communities appeal to their political leaders to provide water supply systems. When they receive the self-help materials, they don’t take the initiative to ensure continuous functionality because they don’t have the leadership to ensure that the facilities are maintained. Unfortunately, this is not sustainable. However this trend is not common in water-stressed areas. In areas where the source of water is a borehole or a spring well, they will do whatever it takes to maintain the source. Functionality in such areas is close to 100%.

Looking back, functionality increased from below 70% to over 80%. MWE has made the right decisions on strategies that government is undertaking to ensure the functionality of water supply systems.

Over the past five years, functionality for both urban and rural facilities has remained above 80%, how has MWE been able to maintain that; to ensure that there is no decline?

We have done a number of things. First we have tried to increase the funding through the District Water and Sanitation Conditional Grant. There has been a remarkable level of innovation and focus in the sector. We are continuously innovating. For example, we undertook to form and operationalise Hand Pump Mechanics Associations (HPMAs) at district level. Some of the mechanics had started over charging communities; others had lost interest in their job. By bringing them into an association we are helping them to get more work and keep them focused. We have also been working with our partners to provide refresh training for the mechanics. All these make the hand pump mechanics realize that they still have roles to play.

The Ministry has also been highlighting functionality as a key area in the sector. For example in the last three years, the yearly undertaking for rural water has been on functionality. We celebrate the success but we are not comfortable we want to move further. Our target is 90% functionality. We are trying to combine efforts with the local governments. This year alone The Ministry of Water and Environment is planning to repair 800 systems. We are looking to increase functionality to 90% in the next 5 years. We have invested in the right technologies and the maintenance culture is gradually taking root.

The longer the distance that people have to walk the more time they spend on fetching water. The more crowded the source, the longer it takes for people to fetch water. That affects their ability to perform any other economic activities. It affects children who have to go to school. In the evening, if girls stay long at the source they can easily be waylaid and molested by rogue characters. The situation may also lead to domestic violence whereby a husband gets suspicious if his wife takes long fetching water. Worse still, there is a tendency for people to revert to unprotected and unsafe sources. For example the older women who need to fetch water from far distance and the queues will end up looking for the nearest source regardless of its safety.

In some areas, sources are non-functional because of issues relating to the quality of water. Such sources have either been abandoned or they are used for purposes other than domestic consumption. Users are not bothered about the maintenance of such sources.

In other areas, it may not be about the crowding at the source. Rather it is about the fact that there are too few sources and people have to share them with animals. Among the pastoral or nomadic communities, people don’t have any water supply systems. We have to strike a balance between maintaining the functional facilities and ensuring that those who don’t have also get a service, while also ensuring that the communities remain involved in O&M.

What strategies does the MWE have in place to meet that functionality targets set in the National Development Plan and in Vision 2040?

One of the outstanding things about the Ministry of Water and Environment is its responsiveness and ability to transform. Currently, we are pursuing solar technology to enhance rural water supply. We are trying to tap the boreholes with solar energy. This is in response to the increase in population. The technology will ensure that we abstract more water hence reduce congestion at source. We are also trying to move water from areas of plenty to dry areas. This is especially in the Eastern Region where we intend to build systems to take water from Mount Elgon and distribute it to dryer areas. We are doing the same in the areas bordering South Sudan, Agero and Lamwo. Similarly in Mtonko, we are trying to tap water from the hills and bring it to low lying areas suffering water scarcity. In all these interventions, we are using reusable energy which is also environmentally friendly, and we are going to reach more people.

We are also intensifying the drilling of wells with a view to provide one source of water per village. I must say that are areas where we can cover 100% functionality by drilling only. The ground water potential is high and the quality is good. There are areas like Manafwa where we can supply 100% of the population through a reliable borehole. In all these cases the issue is not the technologies, but the people are not well educated and lack access and even supersede the national functionality targets.